

CLAIMS

1. A composite footwear insole having a front portion (2) for interacting with the user's foot at the metatarsal region and at least partly at the plantar arch, and a rear portion (3) for interacting with the foot over the heel region, characterized in that said rear portion (3) has at least one layer (4) of gel material whose plan size is at least substantially equal to that of said rear portion (3) to uniformly support the heel and absorb stresses acting thereon.

2. Insole as claimed in claim 1, characterized in that said gel layer (4) is made of one piece and has a substantially continuous upper surface (5), free of surface discontinuities.

3. Insole as claimed in claim 2, characterized in that said rear portion (3) is wholly made of gel material.

4. Insole as claimed in claim 2, characterized in that said rear portion (3) comprises a support base (7) made of a semi-rigid, natural or synthetic material, underlying said gel layer (4).

5. Insole as claimed in claim 2, characterized in that said gel layer (4) is finished at least on said upper surface (5) with a varnish which is capable of reducing tackiness between said rear portion (3) and the heel.

6. Insole as claimed in claim 2, characterized in that said gel layer (4) has a raised peripheral edge (4) to conform to the heel anatomy and favor retention thereof.

7. Insole as claimed in claim 1, characterized in that said front portion (2) comprises at least one layer of transpiring material.
- 5 8. Insole as claimed in claim 4, characterized in that said semi-rigid support base (7) continuously extends even at said front portion (2).
9. Insole as claimed in claims 7 and 8, characterized
10 in that said support base (7) extends under said transpiring layer at said front portion (2).
10. Insole as claimed in claim 2, characterized in that said gel layer (4) is joined to said front portion (2)
15 by a substantially continuous connecting portion (8).
11. Insole as claimed in claim 2, characterized in that said rear portion (3) has a one-piece appendage extending toward the plantar arch of the foot.
- 20 12. Insole as claimed in claim 2, characterized in that said front portion (2) comprises a gel insert (10) placed at the metatarsal region.
- 25 13. A method of manufacturing a footwear insole as claimed in one or more of the preceding claims, comprising the steps of forming a front portion (2) designed to interact with the foot at the metatarsal region and at least partly at the plantar arch, and
30 forming a rear portion (3), integral with the front portion (2), and designed to interact with the heel, characterized in that it comprises the step of forming a gel layer (4), and molding it in a special mold,

substantially over the whole plan size of said rear portion (3).

14. Method as claimed in claim 13, characterized in
5 that said gel layer (4) is co-molded with said front portion (2).

15. Method as claimed in claim 13, characterized in
that said gel layer (4) is co-molded with said front
10 portion (2) and a semi-rigid support base (7).

16. Method as claimed in claim 13, characterized in
that the front portion (2) and the rear portion (3) are
fabricated separately and are later joined by a
15 substantially continuous connecting junction.

17. Method as claimed in claim 13, characterized in
that said gel layer (4) is coated at an upper surface
(5) thereof with a varnish which is capable of reducing
20 its tackiness to the heel.

18. Method as claimed in claim 13, characterized in
that a non-stick varnish is previously applied on said
mold for coating an upper surface (5) of the gel layer
25 (4) to reduce its tackiness to the heel.